Claims

1. A device for the in-situ disposal of sanitary waste, in particular of incontinence articles, made of a nonwoven fabric, of an absorbent cellulose layer, eventually with a gel embedded into the cellulose layer or with absorbent granulates, of an one-sided outer shell of synthetic material and of Velcro/adhesive strips, rubber straps or the like as closing and retaining means, whereby the sanitary waste is mechanically comminuted and at least partially dissolved in a wash liquid, the liquid thus obtained separated from the remaining rest of the comminutes sanitary waste, the liquid supplied to a discharge duct and the remaining rest of the comminuted sanitary waste dewatered as well as separately disposed of,
characterized in
that the device (10) consists of a housing (11) in which

   - a fixed drum-type container (20) with a horizontal central axis (MA) and with a filling opening (25) for the sanitary waste as well as with an inlet pipe (28) for dosed wash liquid (WF), an inlet pipe (29) for a dosed sanitary liquid (HF) for preventing odors and for desinfection and an inlet pipe (129) for dosed chemicals (CH) in powdered or liquid state for conditioning the superabsorbers such as solid products made of plastics or superabsorbent polymer products or gel bodies in the sanitary waste and in particular in the sanitary napkins contained in the sanitary waste, whereby a discharge device (50) which is integrated into the container body (20) is provided in the bottom area of the container (20), preferably a discharge duct (65) configured as a slide with an inclination in direction of the discharge for the carrying-off of the comminuted sanitary waste interspersed with wash liquid

- out of the bottom area of the container (20), in the inner space (27) of which a vertical knife disk (30) which can be driven into rotation is placed in the area of one of its both side walls (21; 22) with tearing knives (31) turned to the inner space (27) of the container (20) for tearing and disintegrating the sanitary waste and
- a compressor screw (60) following the discharge duct (65) and placed in an approximately tubular housing (61) with a different gradient and a different web thickness, whereby the discharge duct (65) is guided into the bottom-sided area of the compressor screw (60) which forms a functional unit with a shear sieve sheet (70) placed in the inner space (62) of the housing (61) and extending in the longitudinal direction of the compressor screw for separating the comminuted sanitary waste containing solid components from the wash liquid (WF) with the constituents of the sanitary waste dissolved therein in such a manner that the compressor screw (60) and the shear sieve sheet (70) cooperate in the manner of scissors in order to avoid a plugging of the shear sieve sheet (70), whereby the wash liquid (WF) with the constituents of the sanitary waste which are dissolved therein is fed to a discharge duct (85) over a discharge pipe (80) by means of a pump (81) and whereby the rest of the comminuted sanitary waste freed from liquid and containing solid constituents is fed in the upper area (61b) of the housing (61) with the compressor screw (60) to a collecting receiver (95),

are placed, whereby the control of the admission for the wash liquid (WF) and the dosing pumps (28', 29', 129') for the sanitary liquid and for the chemical, the control for the driving device (35) for the knife disk (30) and the driving device (66) for

the compressor screw (60) and the pumps are combined in a program switching device or are carried out by means of a free programmable device.

2. A device according to claim 1,
characterized in
that cold wash liquid is supplied to the inner space (27) of the container (20) by the wash liquid admission (28).

3. A device according to any of the claims 1 or 2,
characterized in
that the shear sieve sheet (70) consists of a curved plate-shaped sieve body (70') with a partially circular arch, the radius of which corresponds to the outer radius of the compressor screw (60).

4. A device according to any of the claims 1 to 3,
characterized in
that
a compressor nozzle (100) with an upwards tapered section for separating the residual liquid is configured in the upper area (61b) of the housing (61) with the compressor screw (60), section which is connected with the compressor screw (60) to the discharge duct (85) by a connecting line with the discharge (80) for the liquid from the housing (61).

5. A device according to any of the claims 1 to 4,
characterized in
that the drum-type container (20) consists of an upper cylindrical container body (20a) which turns on the bottom side

into a tapering section (20b) which forms the discharge duct (65).

6. A device according to any of the claims 1 to 5,
characterized in
that the shear sieve sheet (70) is configured as insert body which can be placed in the housing (61) with the compressor screw (60), whereby the curved sieve surface (70a) is placed lying without any distance to the rotation surface of the compressor screw (60).

7. A device according to any of the claims 1 to 6,
characterized in
that a certain number of shearing knives (31) placed distributed over the disk surface is provided on the wall surface of the knife disk (30) which is turned to the inner space (27) of the container (20).

8. A device according to any of the claims 1 to 7,
characterized in
that the length of the container (20) corresponds approximately to the diameter of the front walls (21, 21) of the cylindrical container body (20a) of the container (20), whereby the diameter of the knife disk (30) corresponds approximately to the diameter of the front walls (21, 22) in the area above the discharge duct (65) of the container (20).

9. A device according to any of the claims 1 to 8,
characterized in
that the drum-type container (20) is placed fixed in the frame (12) of the housing (11) of the device (10), thus not rotating.

10. A device according to claim 9,

characterized in
that the container (20) is positioned resilient in the frame (12) of the housing (11).

11. A device according to any of the claims 1 to 10,
characterized in
that the container side wall (23) turns on the bottom side into a conically tapering section which runs into the discharge duct (65).

12. A device according to any of the claims 1 to 11,
characterized in
that
each shearing knife (31) has an optimized knife grinding for an effective comminution of the sanitary waste and is made of an approximately rectangular fixing plate (150) and of a plate-shaped and approximately triangular knife body (155) placed standing perpendiculary on the fixing plate (150) and diagonally to this, the one side wall surface (156) of the knife body (155) is curved as an arch to the inside while the other side wall surface (157) is plane and has two side sections (158, 159) which are U-bent to the side wall surface (157) as well as an U-bent upper section surface (160) which is situated in the upper tip area of the knife body (155) which turns into a tapering cutting surface (162) by configuring a cutitng edge (161) with a knife-type reduced tearing edge (162), whereby the other side edge which extends from the tip area of the knife body (155) to the lateral section surface (158) is configured as cutting edge and cutting surface (163), whereby the reduced tearing edge (162) is configured as a two-sided start ground taper.

13. A device according to any of the claims 1 to 12,
characterized in

that the container (20) is provided with an automatically refilling drain trap (50) for aeration.

14. Method for the in-situ disposal of sanitary waste by using a device according to the claims 1 to 13,
characterized in
that
a.) the sanitary waste is conditioned, torn into pieces and comminuted in a drum-type container (20) by simultaneously supplying wash water, preferably cold wash water, chemicals, sanitary liquid and desinfectants by means of shearing knives (31) of a rotatably driven knife disk (30), then
b.) the comminuted product is supplied to a compressor screw (60) for separating the comminuted sanitary waste containing solid components from the wash liquid by means of a shear sieve sheet (70) by simultaneously cooperating in the manner of scissors of the compressor screw (60) with the shear sieve sheet (70) for avoiding a plugging of the shear sieve sheet (70) and then
c). the wash liquid is supplied with the soluble constituents of the sanitary waste dissolved in the wash liquid to a discharge duct and the rest of the comminuted sanitary waste containing solid constituents and freed from the wash liquid is supplied to a collecting receiver (95).

15. A method according to claim 14,
characterized in
that for the conditioning process of the sanitary waste in the container (20) chemicals are supplied for the conditioning of the superabsorbers such as solid products made of plastics or superabsorbing polymer products or gel bodies.